STATE OF CALIFORNIA
ENERGY RESOURCES CONSERVATION
AND DEVELOPMENT COMMISSION

Development of Statewide Guidelines for Reducing Wildlife Impacts from Wind Energy Development	)))	Docket No. 06-OII-1 Developing Statewide Avian Guidelines

COMMENTS OF

OAK CREEK ENERGY SYSTEMS, INC.

ON JULY 2007 COMMITTEE DRAFT REPORT

Oak Creek Energy Systems, Inc. ("Oak Creek") hereby submits its written comments on the July 2007 Committee Draft Report entitled "California Guidelines for Reducing Impacts to Birds and Bats from Wind Energy Development" ("Committee Draft" or "Guidelines"). Oak Creek appreciates the opportunity to participate and provide comments during the further development of the Committee Draft.

I. General Comments

A. Oak Creek Hereby Endorses CalWEA's Written Comments on the Committee Draft

B. The Guidelines Would Not Ensure Reduced Impacts to Birds and Bats from Wind Energy Development

The Committee Draft essentially prescribes the same bird and bat studies for every prospective wind energy site in California and do not account for differences amongst varying project parameters and project site ecosystems. For example, the Committee Draft would require bird use counts ("BUCs") to be conducted every week for three years at most sites, one year pre-construction and two years of post-construction, and bat acoustical monitoring studies at every site, continually for three years.

Oak Creek is opposed to these requirements because such uniform, across the board studies are tantamount to state-mandated research projects. Bird use can be more effectively characterized through intensive seasonal sampling; bat acoustical monitoring has not been scientifically shown to accurately estimate collision risk or impacts; and post-construction bat monitoring can be conducted more effectively using carcass searches.

In order to help the wind industry comply with state and federal laws, in particular the California Environmental Quality Act ("CEQA"), the Guidelines should focus on the information that is needed to determine significant impacts specific to each proposed project site and the information that is required for a project's Environmental Impact Report so that the lead agency can make its determination under CEQA as to whether a project should be approved. The Guidelines do not currently acknowledge the processes and study methods that reflect the local conditions and that have already been established by lead agencies.

Perhaps the Guidelines should be tested through a pilot study program before their adoption.

C. Guidelines Would Hinder Wind Energy Development in the State of California By Significantly Raising Permitting Costs and Delaying the Permitting Process

The requirements discussed above for BUCs and bat monitoring will significantly raise the cost of permitting wind energy facilities in California. In addition to increased costs, the Guidelines would delay the permitting process because they require approval by the California Department of Fish and Game ("CDFG") on bird and bat study methods. Historically, the CDFG has been understaffed. Increased permitting costs that would not necessarily reduce impacts and potential permitting delays would not encourage the development of wind energy in California. There is no discussion in the Guidelines of the fact that CDFG should have to stick to the CEQA timelines mandated by state law for permitting.

For example, weekly BUCs are overly burdensome and cost prohibitive and do not produce any statistically adequate data. BUCs do not need to be done on a weekly basis. Oak Creek has found that conducting BUCs on a seasonal basis, during breeding seasons and migrations produces better data at a much lower cost. Oak Creek's current practice of conducting seasonal studies has been developed in conjunction with the lead agency and local Audubon groups. The cost of conducting weekly studies on a 13 acre project (~ 500 MW) will exceed $100,000.00, while the cost of seasonal studies is approximately $38,000.00.

The cost of bat surveys currently outlined in the Guidelines is approximately $500,000.00 per year, not including the cost of equipment. The cost of bat acoustical monitoring equipment needed to meet the Guidelines on a 13 acre project (~ 500 MW) is approximately $74,000.00, which does not include the cost of installing additional met tower or poles tall enough to utilize the equipment at the monitoring heights suggested by the Guidelines. The cost of one year of bat acoustical monitoring studies on a 13 acre project site (~ 500 MW) could easily reach $750,000.00.

D. Certain Wind Energy Projects Should Be Eligible for Streamlined Environmental Review Under the Guidelines

The wind energy industry in California should be encouraged to develop projects with lower environmental impacts. For example, CEQA allows for streamlined permitting for re-powered fossil fuel plants. Wind energy re-powers and new projects in areas known to have low environmental impacts should also be eligible for streamlined permitting; however, the Guidelines do not allow for this. Money required by the Guidelines to be spent on re-confirming known bird and bat impacts does not encourage renewable energy development in the State of California.

II. Specific Comments

A. Title and Introduction - Purpose of This Document - Page 3, Lines 153 through 162

The title of the Guidelines should be revised to include the word "Voluntary", and the purpose of the document should state that Guideline's purpose is to provide a voluntary set of guidelines.

B. Step 3: Conduct Pre-Permitting Assessment – Bird Use Counts - Page 11, Lines 435 through 455

The method of modifying BUC from the standard point counts, by reducing the number of points necessary to get a good statistical analysis from 250 (USFS Handbook of Field Methods for Monitoring Landbirds by Ralph et. al, 1993) to 1 per section and increasing the time from 5 or 10 minutes (USFS Handbook of Field Methods for Monitoring Landbirds by Ralph et. al, 1993) to 30 minutes will not result in sound bird use data. Even on a wind farm 6 square miles in size, this results in only 6 data points; 6 points or even 10-15 points will not obtain a statistically adequate sample, especially if so few points are stratified for both habitat type and time of day as suggested in the Guidelines (See statistical methods books, e.g, Mendenhall- Introduction to probability and statistics, Cochran, Sampling techniques, Green- Sampling design and statistical methods for environmental biologists, Biological sampling techniques, Lyman McDonald, etc,). Inferences based on such inadequate statistical samples or small sample size statistics may not be valid. Consequently, increasing the time spent at a station does not make up for not having enough points to obtain statistically adequate data i.e., data adequate from which to draw conclusions (Ralph et al 1993. [Ralph, G.C., G.R. Geupel, P Pyle, T.E Martin and D.F. DeSante. 1993. USFS Gen Tech Report PSW-GTR-144].

If after such lengthy sampling, conclusions cannot be drawn, the data is next to useless. Other considerations include climate, population and migration route variations, common nesting locations and offsite impacts. These characteristics would make it difficult to impossible to determine the effects of wind farms on any particular species. An example of this would be the tri-colored black bird which does not always go to the same location every year.

The complexity of cumulative impact analyses make them implausible to conduct even with a statistically valid number of points, and when there are too few numbers of

points, cumulative impact analysis is almost impossible. And because the Guidelines are requiring added variables such as sampling in different weather and different times of the day, the purpose of such intensive monitoring efforts with these required added variables becomes meaningless, as the data cannot be analyzed conclusively.

Thus, the actual needs become those of research and experimentation, which go beyond the level of CEQA and National Environmental Policy Act ("NEPA") requirements in many cases. Not even endangered species are generally studied to the intensity required in the Guidelines for common bird species. Although other laws apply to bird species (Migratory Bird Treaty Act ("MBTA") and equivalent state code), they do not require mitigation, they prohibit take.

C. Step 3: Conduct Pre-Permitting Assessment – Bird Use Counts – Metrics - Page 11, Lines 454 through 455

Please delete the requirement to record bird use within the proposed rotor-swept area. Unless such data are stratified according to height of the turbine and rotor diameter, as well as the topographical location, level, sloping and ridge-top, the comparison of rotor-swept data will not provide meaningful comparisons. In fact, it would mask the differences in mortality, consequently making it more difficult to determine which types of facilities may cause less mortality.

D. Step 3: Conduct Pre-Permitting Assessment – Raptor Nest Searches - Page 11, Lines 456 through 480

Oak Creek agrees that raptor nest searches should be done on the project site or along public roadways; however, Oak Creek does not agree that raptor nest searches should be conducted up to 3 miles from proposed turbine locations. Extensive limitations exist to searching for raptor nests off the project site when the projects are largely on private property and surrounded by private property. Unless a particular species is colonial nesting or the project site is near extensive cliffs or riparian areas which avail good raptor nesting habitat, the number of nests nearby is not necessarily an indication of risk unless the project site is within a migratory route. Aerial surveys are suggested, but it is believed that finding ground nesting raptors in the desert would be difficult. Furthermore, flight elevation limitations exist on and near wind farms to prevent accidents; consequently, aerial surveying methods have their limitations. If raptors are a factor, their presence will be detected during BUCs or regular baseline biological surveys.

E. Step 3: Conduct Pre-Permitting Assessment – Bats-Pre-Permitting Monitoring Protocol – Page 12, Lines 481 through 482

Before intensive monitoring is implemented, some determination of the potential presence of bat species of concern should be conducted. The intensive levels of surveying with acoustical monitoring, which has not been correlated with bat mortality is highly expensive, without providing the type of data needed to make any predictions

about impacts, in particular, the presence of species of concern. Acoustical monitoring has already been shown by others not to correlate to bat losses. (Kunz, 2007. Frontiers in Ecology 5(6) 315-324).

This makes the bat sampling requirements research rather than baseline data collection. Other agency standard sampling protocols are only required in known potential habitat. If a project is in an area not known to be potential habitat, such surveys should not be required as no basis exists for doing such expensive an intensive sampling for something that may not even occur at a location.

F. Step 4: Assess Potential Impacts and Identify Mitigation Measures – Impact Avoidance and Minimization - Page 13, Lines 512 through 523 and Page 66, Lines 2370 through 2373

It is not always possible to avoid the use of guy wires, especially on met towers, which are used pre and post-construction to measure the wind. Usage of guy wires on met towers is standard practice in the wind industry. While the impact of guy wires should be considered, their use should not be forbidden. For example, Oak Creek has never found a bird fatality on a met tower guy wire.

G. Step 4: Assess Potential Impacts and Identify Mitigation Measures – Compensation - Page 13, Lines 524 through 592

It is not clear in this section as to what triggers compensation. Compensation is required by state law for the loss of endangered species habitat, and compensation may be used to mitigate significant impacts under CEQA. However, the MBTA does not require compensation.

A wind energy developer needs to know, as early on in the development process as possible, all mitigation and compensation requirements. The operations impact mitigation and adaptive management section is inappropriate at this time because there is little information as to how and if it will work to reduce bird and bat impacts. Furthermore, potential curtailment, seasonal shutdowns and other open-ended monitoring will make the financing of wind energy projects in California more difficult.

H. Step 4: Assess Potential Impacts and Identify Mitigation Measures – Compensation - Page 14, Line 552

The list of potential compensatory mitigation options all deal with offsite options. All compensation and mitigation does not necessarily need to be offsite. Predator control programs and invasive species removal are examples of compensation that would be effective onsite. This is true particularly in cases where the wind farms may actually attract certain species, such as ravens, and other predators and scavengers. Wind farms protect remaining terrestrial habitat and minimize other adverse human impacts, such as fires, off-road vehicular use and hunting.

I. Step 5: Collect Operations Monitoring Data Using the Standardized Monitoring Protocol – Study Duration – Page 16, Line 635

Again, there is nothing in the Guidelines which acknowledges the processes and study methods reflecting local environmental conditions which have already been put in place by lead agencies. Post-construction BUC monitoring is not necessarily needed for two years and should therefore be deleted as a requirement. Whether post-construction BUCs are needed and if needed, for how long, should be determined in consultation with the lead agency. Other regional or adjacent mortality data may be available that could completely eliminate the need for post-construction monitoring, especially for expansions and repowers of existing projects. If operations monitoring is needed, and mortality figures validate or are less than existing data, no purpose exists for extending the monitoring into a second year other than for the sake of data collection.

J. Step 5: Collect Operations Monitoring Data Using the Standardized Monitoring Protocol – Study Duration – Page 16, Line 649

Please delete the requirement that Category 2 and 3 projects need the full two years of operations monitoring, because post-construction BUCs will not be able to prove that the wind project has directly caused any changes to bird populations in the area. Changes occur in bird populations because of weather, global climate change, migration movement changes, disease, regional development, changes in agricultural cropping, forest fires, annual precipitation, application of pesticides, hunting season changes and pressure, etc. Even if some population change does occur compared to pre-construction monitoring, nothing is to say that it will remain the same in subsequent years. Therefore, the BUCs will be data collection for data collection sake and will not help to reduce impacts to birds from the wind farm.

K. Step 5: Collect Operations Monitoring Data Using the Standardized Monitoring Protocol – Frequency of Carcass Searches - Page 17, Lines 686 through 691

The frequency of carcass searches must be adjusted based on local conditions; no set time frame should be given in the Guidelines. For instance, Dick Anderson's study in the Tehachapi area of California showed that 50 percent of the carcasses were removed within three days. Using the two week standard set forth in the Guidelines, it would unlikely that any carcasses would be found. Consequently, Oak Creek is conducting carcass searches more frequently to adjust to environmental conditions specific to our project sites. This is just one more example of why developers should be given latitude under the Guidelines to work with their local Counties and lead agencies to tailor-make studies which are geared toward assessing project-specific impacts.

L. Step 5: Collect Operations Monitoring Data Using the Standardized Monitoring Protocol – Carcass Removal Trials - Page 18, Lines 700 through 706

Avoidance of old or long-frozen specimens and exotic species is impossible because many dead birds are needed in larger scale removal trials and sources of native freshly dead specimens are simply not available. Specimens are collected through roadside kills over time, dead birds from treatment centers and glass windows. The Guidelines should also specify that the birds need to be thawed prior to use. Therefore, the Committee Draft should use different language from "avoiding old or long-frozen specimens and exotic species."

M. Step 5: Collect Operations Monitoring Data Using the Standardized Monitoring Protocol – Bird Metrics and Bat Metrics - Page 18, Lines 708 through 714

Please delete the requirement to record bird and bat fatalities per MW of installed capacity per year and per rotor-swept square meter per year. Although superficially it makes sense to use MW and rotor-swept areas, the number of variables can make such comparisons meaningless, for example: diameter of the rotors, height of the rotors, location of the rotors, height of the tower, number of turbines, etc. To compound this problem, the climate and the number of rotors operating during the survey period changes from day to day. That fact alone makes data analysis extremely difficult. Utility required shut downs, breakdowns, and repair and maintenance affect the number of turbines operating in any single day. Use of data by MW could have the unintended affect of masking the reality of which types of turbines may or may not be causing the most mortality.

N. Step 5: Collect Operations Monitoring Data Using the Standardized Monitoring Protocol – Bird Use Counts - Page 18, Lines 724 through 728

Please delete the requirement for post-construction BUCs, because post-construction BUCs will not be able to prove that the wind project has directly caused any changes to bird populations in the area. Changes occur in bird populations because of weather, global climate change, migration movement changes, disease, regional development, changes in agricultural cropping, forest fires, annual precipitation, application of pesticides, hunting season changes and pressure, etc. Even if some population change does occur compared to pre-construction monitoring, nothing is to say that it will remain the same in subsequent years.

O. Step 5: Collect Operations Monitoring Data Using the Standardized Monitoring Protocol – Bat Acoustic Monitoring - Page 18, Line 730 through 733

Please delete the protocol to conduct bat acoustic monitoring nightly for two years "if CDFG, USFWS, and other knowledgeable scientists and appropriate stakeholders consider this information a necessary adjunct to the bat fatality data." The carcass searches will reveal bat mortalities that occur during operations. As discussed in section

E, P and Q, the requirement to collect such data is tantamount to a state-mandated research project.

P. Chapter 2: CEQA, Wildlife Protection Laws, and the Permitting Process – Navigating CEQA Requirements and Local, State, and Federal Laws – Page 29, Lines 1030 through 1031 and 1042 through 1044

The requirements contained in these lines are contra to CEQA. Oak Creek disagrees that the wind project developer should have to mitigate impacts that are less than significant. CEQA only requires mitigation of significant impacts. Therefore, the wind industry is being held to a higher standard than other developers and industries in California who only have to follow CEQA. A recent California appellate decision supports this argument because the court found that conducting nightly avian studies during a spring migration period for multiple years would exceed the mandate of CEQA's information gathering provisions and would hamper development of this key source of renewable energy. (See *Kerncrest Audubon Society, et al. v. City of Los Angeles Department of Water and Power, et al.* (Fifth District Court of Appeal, No. F050809))

Q. Chapter 3: Pre-Permitting Assessment – Acoustic Detection – Page 55 and 56, Lines 1940 through 2011

Please eliminate all bat acoustical monitoring requirements. If there is no strong correlation between acoustic monitoring results and turbine mortalities (Lines 2003 through 2005), the wind industry should not be expected to fund the research. The wind industry in California should not be expected to spend time and money trying to prove whether acoustical monitoring for bats is effective. Moreover, almost all bat mortality occurs in the fall during the migratory period (Johnson et al 2003, 2004; Arnett et al 2005). The reasons for this are unknown and correlations with time, weather and landscape features remain to be determined Arnett et al 2005.

In spite of the fact that most bat mortality at wind energy projects occurs during the fall migration period, the Committee Draft recommends year round acoustical monitoring. More reliable and proven means of determining the presence of resident bat species include mist netting, night vision binoculars and night spotlighting. Mortality surveys from nearby wind farms may also be used to identify the potential for bat mortality to be an issue.

Arnett, E.B. 2005, Relationships between bats and wind turbines in Pennsylvania and West Virginia: An assessment of fatality search protocols, patterns of fatality and behavioral interactions with wind turbines. A final report submitted to the Bats and Wind Energy Cooperative. Bat Conservation International. Austin, TX 187 pp.

Johnson, CD, MK Perlik, WE Erickson and MD Strickland. 2004. Bat activity, composition and collision mortality at a large wind plant in Minnesota. Wildlife Society Bulletin 32:1278-1288.

R. Chapter 3: Pre-Permitting Assessment – Exit Counts / Roost Searches – Page 57, Lines 2040 through 2059

Please delete or limit the scope of this section. Bats forage for miles from their roosts. It is unrealistic and unnecessary to perform searches in excess of basic general biota field survey reporting, especially when the suggested survey area is "known or likely bat roosts in mines, caves, bridges, buildings, or other potential roost sites near proposed wind turbine sites." Collection of such data is more suitable for a large-scale research project and does not reveal how the bats interact with the wind turbines at a particular project. Asking the wind industry to fund such broad-scale research projects will decrease the overall economic viability of wind projects. Such studies may reveal more about the bat populations in an area, but will not directly reduce the number of bat fatalities at a wind project site.

S. Chapter 3: Pre-Permitting Assessment – Repowering–Pre-Permitting Assessment – Page 58, Lines 2067 through 2068

Please delete the following sentence: "Repowering requires pre-permitting studies using the same methods as those described above for new projects." The Committee Draft should encourage local agencies to streamline permitting for repowers and new projects in existing development areas known to have low environmental impacts. Pre-permitting studies should not be necessary if operations study requirements are already being performed or other data shows that the site has low impacts.

T. Chapter 4: Assessing Impacts and Selecting Measures For Mitigation – Page 59, Lines 2076 through 2099

This section fails to address the fact that under CEQA, a determination of significance is required, and significant impacts are the only impacts for which mitigation is required. Measures that are incorporated into a project design for take avoidance and environmental protection are not, under CEQA or NEPA, considered mitigation - they are part of the project development. Such measures may be take avoidance and minimization measures, but if they reduce impacts to less than significant, they are not "tallied" in the mitigation monitoring and reporting plans required by CEQA.

U. Chapter 4: Assessing Impacts and Selecting Measures For Mitigation – Indirect Impacts - Page 60, Line 2144 through 2150

A statement should be added clarifying that the presence of a high number of ground squirrels at the Altamont Pass Resource Area has more to do with the land use and the intensity of the land use (heavy long term livestock grazing), than the presence of the turbines themselves. Ground squirrel populations increase with heavy grazing and areas disturbed by humans, if not re-vegetated. It should be noted in this section that soils, geology and land uses are also important issues relative to site planning and management to be considered.

V. Chapter 4: Assessing Impacts and Selecting Measures For Mitigation – Impact Assessment Approaches - Page 60, Line 2232

A reference is made to Appendix H; however, there is no Appendix H attached to the Committee Draft.

W. Chapter 5: Operations Monitoring and Reporting – Carcass Searches and Reporting Monitoring Data - Pages 74 and 79

The Committee Draft should note that a biologist needs a MBTA permit to collect, hold and use bird carcasses and that MBTA permits require specific data reporting.

X. Chapter 5: Operations Monitoring and Reporting – Collecting Carcass Data – Page 75, Line 2717 through 2718

The Committee Draft states that in collecting carcass data, one should "Consider any injured birds or bats encountered during the search as fatalities." Oak Creek requests that this sentence be deleted because not all injuries to birds and bats in the vicinity of wind turbines will be directly related to the wind turbines themselves and because not all injuries to birds and bats will necessarily result in a fatality.

Y. Chapter 5: Operations Monitoring and Reporting – Conduct Carcass Removal Trials - Page 78, Line 2859 through 2861

Oak Creek disagrees with the statement that use of old or long-frozen specimens should be avoided. In Oak Creek's experience, frozen meat which has been frozen for greater than 6 months can thaw out as fresh as fresh meat if properly frozen and because Oak Creek's use of thawed frozen carcasses older than 6 months in carcass removal trials has not revealed any bias by scavengers against the older meat. Moreover, in the case of large-scale carcass removal trials, it is difficult to find enough specimens to conduct the study without using specimens frozen for more than 6 months. In particular, finding a source of bat carcasses can be extremely difficult, if not impossible. Therefore, the Committee Draft should use different language from "Avoid their use if possible" and should not place an arbitrary limit of 6 months on the frozen specimens.

Z. Chapter 5: Operations Monitoring and Reporting – Conduct Carcass Removal Trials - Page 78 and 79, Lines 2863 through 2871

This section should also include a statement that if carcasses are remaining long enough to decay past the point of attracting scavengers, then this may be an indicator that scavenging is pretty low in that area. Therefore, it should be noted that in establishing criteria for removing carcasses, carcasses should not be removed so early that the results of the overall study become biased.

AA. Chapter 5: Operations Monitoring and Reporting – Where to Submit Bird and Bat Data - Page 80, Lines 2926 through 2960

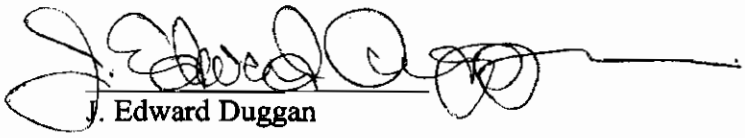
Please clarify that the CDFG's Biogeographic Information and Observation System (BIOS) program is the best place to submit bird and bat raw data. The BIOS program website listed in the Committee Draft (www.bios.ca.gov) does not appear to be working currently. In the past, Oak Creek's biologists have been able to access the website, but found that the website contained referrals to agency staff, not bird and bat studies.

BB. References – Page 92, Lines 3408 through 3418

Please delete references to both Smallwood reports from 2004 because the Commission's own independent reviews on these reports have cast serious doubt on the credibility of the reports' findings and conclusions.

For these reasons, Oak Creek respectfully requests that the Commission reconsider and further revise its Committee Draft.

Respectfully submitted,



J. Edward Duggan

Senior Vice President
Oak Creek Energy Systems, Inc.
14633 Willow Springs Rd
Mojave, CA 93501
jedwind@lightspeed.net

Aug 22, 2007